

S/N Unknown

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Behnam Moradi et al.	Examiner:	Unknown
Serial No.:	Unknown	Group Art Unit:	Unknown
Filed:	Herewith	Docket:	303.591US2
Title:	STRUCTURE AND METHOD TO ENHANCE FIELD EMISSION IN FIELD EMITTER DEVICE		

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.98(d), copies of the listed documents are not provided, except for U.S. Pat. 6,323,075, as these documents, except for U.S. Pat. 6,323,075, were previously cited by or submitted to the U.S. Patent Office in connection with Applicants' prior U.S. application, Serial No. 09/483409, filed on January 14, 2000, which is relied upon for an earlier filing date under 35 U.S.C. §120.

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The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

Respectfully submitted,

BEHNAM MORADI ET AL.

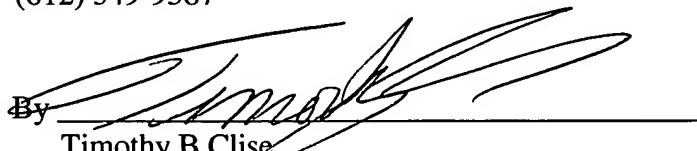
By their Representatives,

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Date

20 Nov '03

By



Timothy B Clise

Reg. No. 40,957

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Date of Deposit: November 20, 2003

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COMMUNICATION CONCERNING RELATED APPLICATION(S)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicants would like to bring to the Examiner's attention the following related application(s) in the above-identified patent application:

<u>Serial/Patent No.</u>	<u>Filing Date</u>	<u>Attorney Docket</u>	<u>Title</u>
09/144207 6232705	September 1, 1998	303.504US1	STRUCTURE AND METHOD FOR IMPROVED FIELD EMITTER ARRAYS
09/695632 6495955	October 24, 2000	303.504US2	STRUCTURE AND METHOD FOR IMPROVED FIELD EMITTER ARRAYS
10/054601	January 22, 2002	303.504US3	STRUCTURE AND METHOD FOR IMPROVED FIELD EMITTER ARRAYS
09/261477 6417016	February 26, 1999	303.562US1	STRUCTURE AND METHOD FOR FIELD EMITTER TIPS

COMMUNICATION CONCERNING CO-PENDING APPLICATIONS

Serial Number: Unknown

Filing Date: Herewith

Title: STRUCTURE AND METHOD TO ENHANCE FIELD EMISSION IN FIELD EMITTER DEVICE

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Dkt: 303.591US2

10/193016

July 9, 2002

303.562US2

STRUCTURE AND METHOD FOR
FIELD EMITTER TIPS

Respectfully submitted,

BEHNAM MORADI ET AL.

By Applicants' Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.

P.O. Box 2938

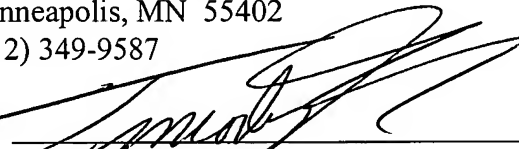
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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	Complete if Known	
	Application Number	Unknown
	Filing Date	Even Date Herewith
	First Named Inventor	Moradi, Behnam
	Group Art Unit	Unknown
	Examiner Name	Ramsey, Kenneth
Sheet 1 of 2	Attorney Docket No: 303.591US2	

US PATENT DOCUMENTS						
Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-3,665,241	05/23/1972	Spindt, C. A., et al.	313	351	07/13/1970
	US-3,755,704	08/28/1973	Spindt, Charles A., et al.	313	309	02/06/1970
	US-3,812,559	05/28/1974	Spindt, C. A., et al.	29	25.18	01/10/1972
	US-5,186,670	02/16/1993	Doan, T., et al.	445	24	03/02/1992
	US-5,229,331	07/20/1993	Doan, T., et al.	437	228	02/14/1992
	US-5,229,682	07/10/1993	Komatsu, Hiroshi	313	309	02/21/1992
	US-5,259,799	11/09/1993	Doan, T., et al.	445	24	11/17/1992
	US-5,358,908	10/25/1994	Reinberg, A. R., et al.	437	228	02/14/1992
	US-5,372,973	12/13/1994	Doan, T. T., et al.	437	228	04/27/1993
	US-5,401,676	03/28/1995	Lee, Kang-ok	437	200	08/30/1993
	US-5,458,518	10/17/1995	Lee, J. D.	445	24	11/07/1994
	US-5,564,958	10/15/1996	Itoh, S., et al.	445	6	05/09/1995
	US-5,578,902	11/26/1996	Vickers, K. G.	313	496	03/13/1995
	US-5,597,444	01/28/1997	Gilton, T. L.	156	643.1	01/29/1996
	US-5,608,283	03/04/1997	Twichell, J. C., et al.	313	309	06/29/1994
	US-5,627,427	05/06/1997	Das, John, et al.	313	308	06/05/1995
	US-5,653,619	08/05/1997	Cloud, E. H., et al.	445	24	09/06/1994
	US-5,666,020	09/09/1997	Takemura, Hisashi	313	306	11/16/1995
	US-5,672,938	09/30/1997	Jones, G. W.	313	504	09/27/1996
	US-5,769,679	06/23/1998	Park, Jong-Moon, et al.	445	50	09/18/1996
	US-5,844,250	12/01/1998	Itoh, , et al.	257	10	
	US-5,853,492	12/29/1998	Cathey, D. A., et al.	134	3	02/28/1996
	US-5,857,885	01/12/1999	Laou, Philips, et al.	445	24	11/04/1996
	US-5,898,258	04/27/1999	Sakai, T., et al.	313	309	01/24/1997
	US-5,910,791	06/08/1999	Zimlich, David, et al.	345	74	03/28/1996
	US-5,956,611	09/21/1999	Cathey, David, et al.	438	630	09/03/1997
	US-6,008,063	12/28/1999	Derraa, Ammar	438	020	03/01/1999
	US-6,028,322	02/22/2000	Moradi, Behnam	257	010	07/22/1998
	US-6,080,032	06/27/2000	Alwan, J. J.	445	50	07/19/1999
	US-6,194,826	02/27/2001	Satou, Kazuya, et al.	313	485	03/11/1998
	US-6,232,705	05/15/2001	Forbes, L., et al.	313	309	09/01/1998
	US-6,323,587	11/27/2001	Zhang, T., et al.	313	309	08/06/1998

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T ²

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	Complete if Known	
	Application Number	Unknown
	Filing Date	Even Date Herewith
	First Named Inventor	Moradi, Behnam
	Group Art Unit	Unknown
	Examiner Name	Ramsey, Kenneth
Sheet 2 of 2		Attorney Docket No: 303.591US2

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		ANDERSON, R. C., et al., "Porous Polycrystalline Silicon: A New Material for MEMS", <u>IEEE</u> , (1994),pp. 10-18	
		BOSWELL, E. C., et al., "Polycrystalline Silicon Field Emitters", <u>8th International Vacuum Microelectronics Conference Technical Digest</u> , (1996),pp. 181-185	
		BOSWELL, E. C., et al., "Polycrystalline Silicon Field Emitters", <u>J. Vac. Sci. Technol. B 14(3)</u> , (1996),pp. 1910-1913	
		HUANG, W. N., et al., "Photoluminescence in porous sputtered polysilicon films formed by chemical etching", <u>Semicond. Sci. Technol.</u> , <u>12</u> , (1997),pp. 228-233	
		HUANG, W. N., et al., "Properties of chemically etched porous polycrystalline silicon deposited by r.f. sputtering", <u>IEEE Hong Kong Electron Devices Meeting</u> , (1996),pp. 21-24	
		HUQ, S. E., et al., "Comparative study of gated single crystal silicon and polysilicon field emitters", <u>J. Vac. Sci. Technol. B 15(6)</u> , (1997),pp. 2855-2858	
		HUQ, S. E., et al., "Fabrication of Gated Polycrystalline Silicon Field Emitters", <u>9th International Vacuum Microelectronics Conference</u> , St. Petersburg,(1996),pp. 367-370	
		KIM, I. H., et al., "Fabrication of metal field emitter arrays on polycrystalline silicon", <u>J. Vac. Sci. Technol. B 15(2)</u> , (1997),pp. 468-471	
		KIM, H. , et al., "Metal FEA's on Double Layer Structure of Polycrystalline Silicon", <u>9th International Vacuum Microelectronics Conference</u> , St. Petersburg,(1996),pp. 423-426	
		LAZAROUK, S. , et al., "Electrical characterization of visible emitting electroluminescent Schottky diodes based on n-type porous silicon and on highly doped n-type porous polysilicon", <u>Journal of Non-Crystalline Solids</u> , (1996),pp. 973-976	
		LEE, J. H., et al., "A New Fabrication Method of Silicon Field Emitter Array with Local Oxidation of Polysilicon and Chemical-Mechanical-Polishing", <u>9th International Vacuum Microelectronics Conference</u> , St. Petersburg,(1996),pp. 415-418	
		PULLEN, S. E., et al., "Enhanced Field Emission from Polysilicon Emitters Using Porous Silicon", <u>9th International Vacuum Microelectronics Conference</u> , St. Petersburg,(1996),pp. 211-214	
		UH, H. S., et al., "Enhanced Electron Emission and Its Stability from Gated Mo-polycide Field Emitters", <u>IEEE</u> , (1997),pp. 713-716	
		UH, H. S., et al., "Fabrication and Characterization of Gated n Polycrystalline Silicon Field Emitter Arrays", <u>9th International Vacuum Microelectronics Conference</u> , St. Petersburg,(1996),pp. 419-422	
		UH, H. S., et al., "Process design and emission properties of gated n polycrystalline silicon field emitter arrays for flat-panel display applications", <u>J. Vac. Sci. Technol. B 15(2)</u> , (1997),pp. 472-476	

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DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

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